

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listing, of claims in the application.

Listing of the Claims:

1. (Currently amended) A reconfigurable spatial light modulator system arrangement comprising:

a controller for holding a pattern;

an incident light source;

at least one spatial light modulator, the at least one spatial light modulator having a plurality of pixels, each pixel being capable of modulating incident light and collectively replicating the pattern;

a scatter plate of known characteristics in an optical path between the incident light source and an observer or detector the scatter plate having a number of surface features greater than the number of pixels on the at least one spatial light modulator;

the arrangement being adapted to present light propagating from a the at least one spatial light modulator to the observer or detector; and

the pattern being a pattern compensated according to the scatter plate characteristics.

2. (Cancelled)

3. (Previously presented) The system of claim 1 wherein the controller stores pre-calculated compensated pattern for each pattern to be displayed.

4. (Previously presented) The system of claim 1 wherein the controller is a computer with storage and means for calculating a compensated pattern for each pattern to be displayed.

5. (Currently amended) ~~The system of claim 1~~ A reconfigurable spatial light modulator system arrangement comprising:

a controller for holding a pattern;

an incident light source;
at least one spatial light modulator, the at least one spatial light modulator having a plurality of pixels, each pixel being capable of modulating incident light and collectively replicating the pattern;
a scatter plate of known characteristics in an optical path between the incident light source and an observer or detector;
the arrangement being adapted to present light propagating from the at least one spatial light modulator to the observer or detector; and
the pattern being compensated according to the scatter plate wherein the controller is a computer with storage and means for calculating both a computer generated hologram from a human readable format and a compensated pattern for each pattern to be displayed.

6. (Previously presented) The system of claim 1 wherein at least one of the at least one spatial light modulators is an electrically addressable liquid crystal spatial light modulator (EASLM) operable either in transmissive or reflective mode.

7. (Previously presented) The system of claim 6 wherein the system comprises at least two spatial light modulators arranged such that light from a first spatial light modulator is directed towards a second spatial light modulator, the second spatial light modulator being an optically addressable spatial light modulator.

8. (Previously presented) The system of claim 7 wherein the optically addressable spatial light modulator is a plurality of individual optically addressable spatial light modulators connected together in a tiled manner.

9. (Previously presented) The system of claim 8 and including a scanner for scanning light from the electrically addressable spatial light modulator onto each individual modulator in a sequence.

10. (Previously presented) The system of claim 8 wherein the plurality of individual modulators is operable either in transmission or reflective mode.

11. (Previously presented) The system of claim 1 wherein the incident light source comprises one or more light sources at one or more different wavelengths or broadband (white) light.

12. (Previously presented) The system of claim 1 wherein the incident light source is a single light source adapted to provide light to all pixels in at least one of the spatial light modulators.

13. (Previously presented) The system of claim 1 wherein the incident light source is a laser adapted to provide light to all pixels in at least one of the spatial light modulators.

14. (Previously presented) The system of claim 1 wherein the incident light source comprises one or more optical fibres.

15. (Previously presented) The system of claim 1 and further including a detector.

16. (Original) The system of claim 15 wherein the detector is an array of detector elements.

17. (Original) The system of claim 15 wherein the detector is a bundle of optical fibres.

18. (Original) The system of claim 15 wherein the detector is a screen for receiving an image and viewing by an observer.

19-21. (Cancelled)